

Skill Review

Solve each equation.

8) $1 + 10x = -49$
 $\{-5\}$

10) $n - 5 = n - 2 - 3$
 $\{\text{All real numbers.}\}$

9) $2 = \frac{v - 6}{5}$
 $\{16\}$

11) $6x + x + 16 = 4 + 8x + 3x$
 $\{3\}$


Write an inequality that represents each phrase.

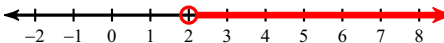
12) Mrs. Gulamali's classroom holds at most 35 students.

Write a compound inequality that represents each phrase.

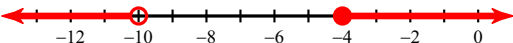
13) The circumference of a women's basketball must be between 28.5 inches and 29 inches.

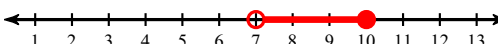
Solve each inequality and graph its solution.

14) $-2n + 6 < n - 3$

 $n > 3$

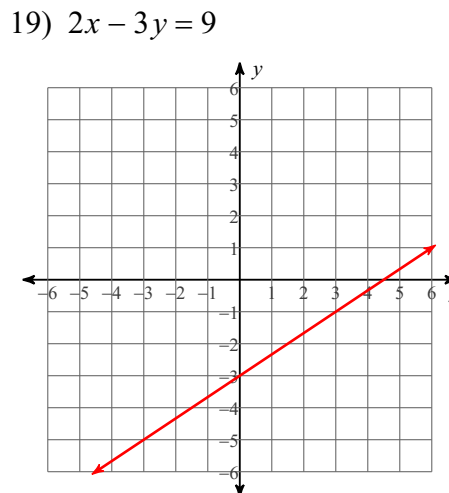
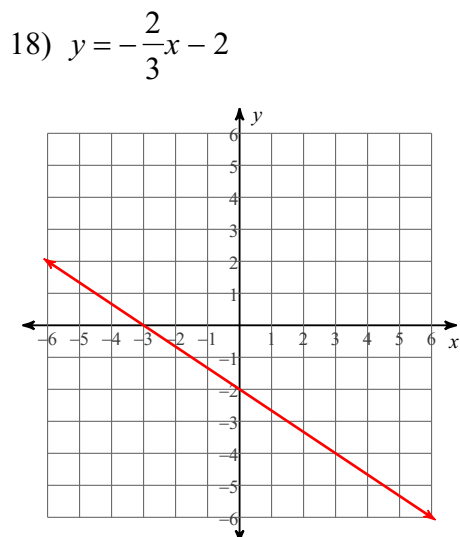
15) $-2(x - 2) < -2 + x$

 $x > 2$

Solve each compound inequality and graph its solution.

16) $8v < -80$ or $v - 2 \geq -6$

 $v < -10$ or $v \geq -4$

17) $10 + b > 17$ and $\frac{b}{5} \leq 2$

 $7 < b \leq 10$

Sketch the graph of each line.



Write the slope-intercept form of the equation of the line described.

20) through: $(-5, 3)$, parallel to $y = -2x$

$$y = -2x - 7$$

Write the slope-intercept form of the equation of the line through the given points.

22) through: $(-3, 5)$ and $(-4, -2)$

$$y = 7x + 26$$

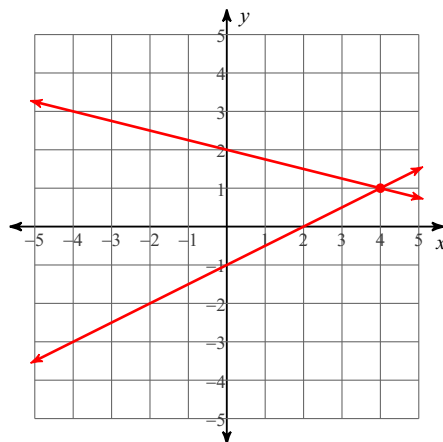
21) through: $(1, 5)$, perp. to $y = -\frac{1}{2}x - 2$

$$y = 2x + 3$$

Solve each system by graphing.

$$23) y = \frac{1}{2}x - 1$$

$$y = -\frac{1}{4}x + 2$$



$(4, 1)$

Solve each system by substitution.

$$24) y = 2x + 13$$

$$2x + 3y = 7$$

$(-4, 5)$

Solve each system by elimination.

$$25) -9x - 4y = 15$$

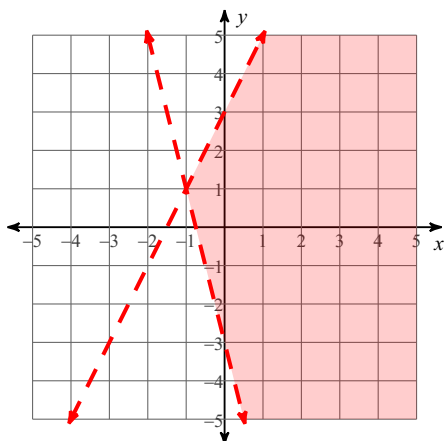
$$3x + 2y = -3$$

$(-3, 3)$

Sketch the solution to each system of inequalities.

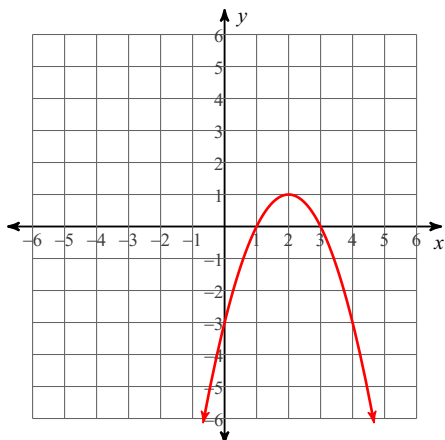
$$26) 2x - y > -3$$

$$4x + y > -3$$

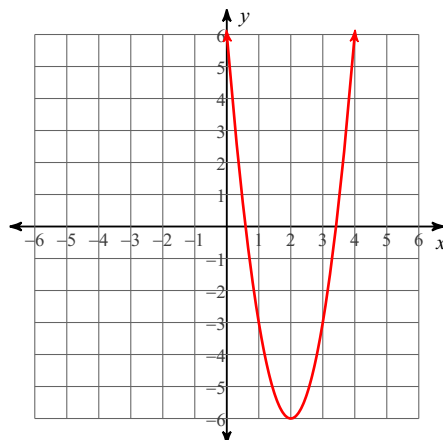


Graph each quadratic function.

27) $y = -(x - 2)^2 + 1$



28) $y = 3(x - 2)^2 - 6$

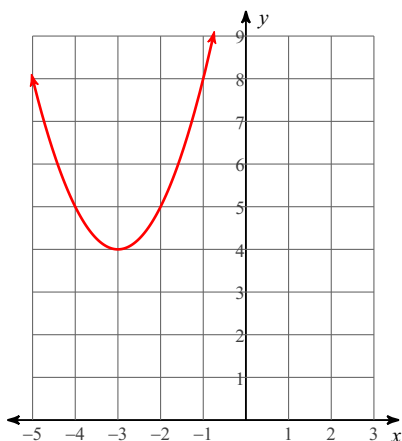


Convert the quadratic function to Standard Form.

29) $y = 3(x + 2)^2 - 5$
 $y = 3x^2 + 12x + 7$

Sketch the graph of each function.

31) $y = x^2 + 6x + 13$

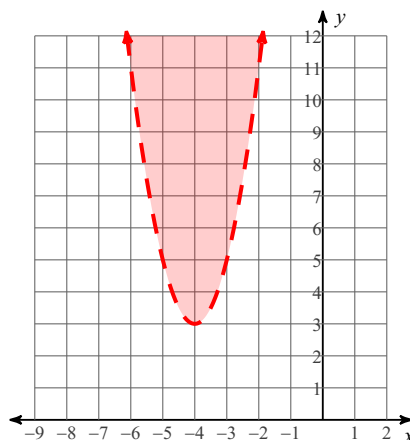


Find the vertex of each parabola, and then write the equation in vertex form.

30) $y = 2x^2 + 8x + 7$
 $(-2, -1); y = 2(x + 2)^2 - 1$

Sketch the graph of each function. Don't forget about the shading.

32) $y > 2(x + 4)^2 + 3$



Factor Completely

33) $x^2 - 8x + 15$

34) $2x^2 - x - 15$

Solve each equation by factoring.

35) $x^2 - 3x - 6 = 4$
 $\{-2, 5\}$

36) $7x^2 - 19x - 10 = -4$ $\left\{-\frac{2}{7}, 3\right\}$

Solve each equation with the quadratic formula.

37) $10x^2 + 8x - 20 = 0$ $\left\{\frac{-2 + 3\sqrt{6}}{5}, \frac{-2 - 3\sqrt{6}}{5}\right\}$